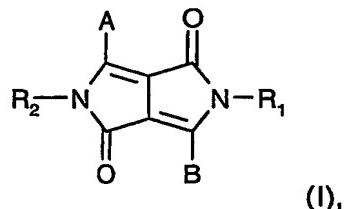
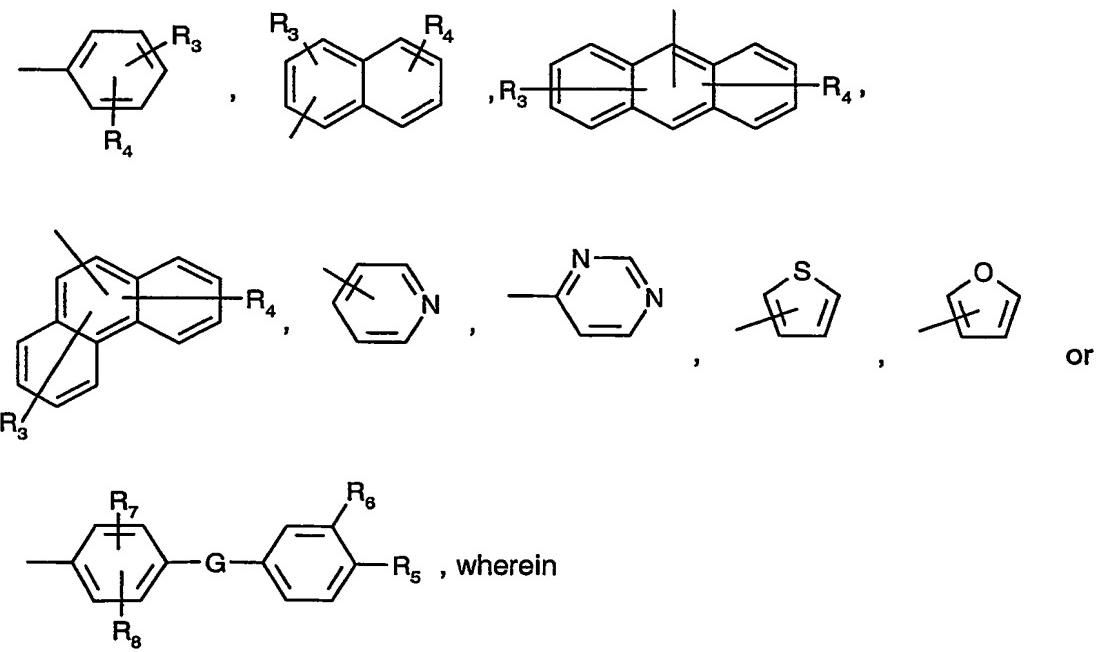


Claims

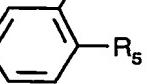
1. A colour filter comprising a transparent substrate and a layer comprising from 1 to 75% by weight, preferably from 5 to 50% by weight, with particular preference from 25 to 40% by weight, based on the overall weight of the layer, of a diketopyrrolopyrrole of the general formula (I) dispersed in a high molecular mass organic material:



wherein A and B independently of one another are a group of the formula



R₃ and R₄ independently of one another are hydrogen, halogen, C₁-C₁₈alkyl, C₁-C₁₈alkoxy, -NR₁₆R₁₇, -CONHR₁₈, -COOR₁₉, -SO₂NH-R₂₀, C₁-C₁₈alkoxycarbonyl, C₁-C₁₈alkylaminocarbonyl, -CN, -NO₂, trifluoromethyl, C₅-C₇cycloalkyl,

-C=N-(C₁-C₁₈alkyl), -C=N-, imidazolyl, pyrazolyl, triazolyl,

piperazinyl, pyrrolyl, oxazolyl, benzoxazolyl, benzothiazolyl, benzimidazolyl, morpholinyl, piperidinyl or pyrrolidinyl,

G is -CH₂-, -CH(CH₃)-, -C(CH₃)₂-, -CH=N-, -N=N-, -O-, -S-, -SO-, -SO₂-, -CONH- or -NR₉-,

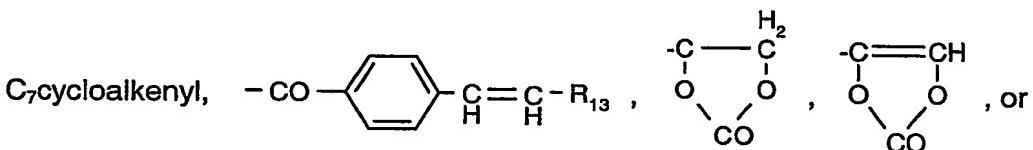
R₅ and R₆ independently of one another are hydrogen, halogen, C₁-C₆alkyl, C₁-C₁₈alkoxy or -CN,

R₇ and R₈ independently of one another are hydrogen, halogen or C₁-C₆alkyl and R₉ is hydrogen or C₁-C₆alkyl,

R₁ and R₂ are independently of each other C₁-C₁₈alkyl, C₁-C₁₈alkyl, which is interrupted one or more times by O or S, C₆-C₁₂aryl, C₇-C₁₂aralkyl, or a group of the formula -C(O)OR₁₀, wherein R₁₀ is C₁-C₁₈alkyl, C₅-C₁₀cycloalkyl, C₆-C₁₂aryl, or C₇-C₁₂aralkyl, or a group of the formula

-X₂-X₃ (II), wherein

X₂ is an alkylene, arylene, aralkylene or cycloalkylene spacer containing optionally one or more groups -O-, -S-, -NR₁₄-, -CO-, -CONH-, -CONR₁₅-, or -COO- as linking bridge, X₃ is OH, NH₂, -C(R₁₁)=CH₂, -OC(O)-C(R₁₂)=CH₂, -C(O)-C(R₁₂)=CH₂, C₅-



-OC(O)-N-X₄-N-C(O)-O-X₅-O-C(O)-C(R₁₂)=CH₂; wherein

R₁₁ is hydrogen, or C₁-C₄alkyl, or halogen,

R₁₂ is hydrogen, C₁-C₄alkyl, or halogen,

R₁₃ is hydrogen, C₁-C₄alkyl, or C₆-C₁₂aryl,

R₁₄ and R₁₅ are independently of each other hydrogen, C₁-C₆alkyl, or C₆-C₁₂aryl,

R₁₆, R₁₇, R₁₈ and R₂₀ are independently of each other hydrogen, C₁-C₁₈alkyl, C₆-C₁₂aryl, or C₇-C₁₂aralkyl,

R₁₉ is C₁-C₁₈alkyl, C₆-C₁₂aryl, or C₇-C₁₂aryl, and

X₄ and X₅ are independently of each other an alkylene, arylene, aralkylene or cycloalkylene spacer,

R₃, R₄, R₅, R₆, R₇, and R₈ can also be a group of formula

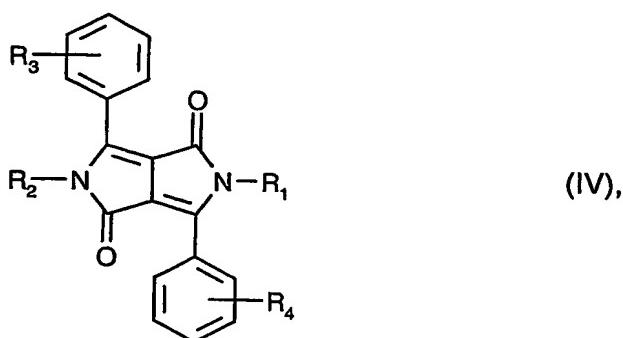
-X₁-X₂-X₃ (III), wherein

X₁ is -O-, -S-, -NH-, -CONH-, -COO-, -SO₂-NH-, or -SO₂-O-, and

X₂ and X₃ are as defined above,

with the proviso that at least one, preferably two, of the groups of the formula (II) and/or (III) is present per molecule.

2. A colour filter according to claim 1, wherein the pigment has the general formula



wherein R₁ and R₂ are independently of each other a group of the formula

-X₂-X₃ (II), wherein

X₂ is an alkylene, arylene, aralkylene or cycloalkylene spacer containing optionally a group -O-, -S-, -NR₁₄-, -CO-, -CONH-, -CONR₁₅-, or -COO- as linking bridge,

X₃ is -OH, -NH₂, -C(R₁₁)=CH₂, -OC(O)-C(R₁₂)=CH₂, -C(O)-C(R₁₂)=CH₂, or
-OC(O)-N-X₄-N-C(O)-O-X₅-O-C(O)-C(R₁₂)=CH₂; wherein

R₁₁ is hydrogen, or methyl,

R₁₂ is hydrogen, or methyl,

R₁₄ and R₁₅ are independently of each other hydrogen, C₁-C₈alkyl, or C₆-C₁₂aryl, and X₄ and X₅ are as defined in claim 1,

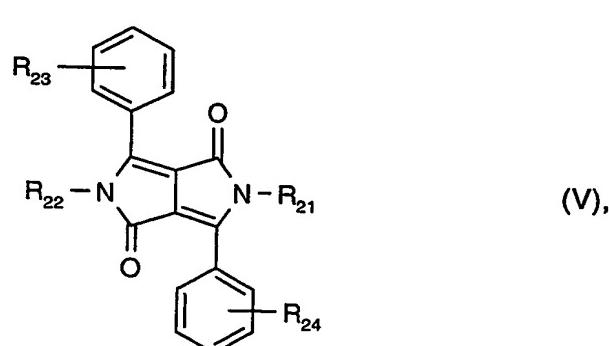
R₃ and R₄ independently of one another are hydrogen, halogen, C₁-C₁₈alkyl,

C₁-C₁₈alkoxy, -NR₁₆R₁₇, -CONHR₁₈, -COOR₁₉, -SO₂NH-R₂₀, C₁-C₁₈alkoxycarbonyl,

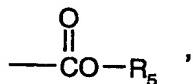
C₁-C₁₈alkylaminocarbonyl, -CN, -NO₂, trifluoromethyl, C₅-C₇cycloalkyl, wherein R₁₆,

R₁₇, R₁₈, R₁₉ and R₂₀ are as defined in claim 1.

3. A colour filter according to claim 1, wherein the pigment has the general formula



in which R_{21} and R_{22} are independently of one another hydrogen, $C_1\text{-}C_{18}\text{alkyl}$, $C_1\text{-}C_{18}\text{alkyl}$ which is interrupted one or more times by O or S, $C_7\text{-}C_{12}\text{aralkyl}$ or a group of the formula



in which R_5 is $C_1\text{-}C_{18}\text{alkyl}$,

R_{23} and R_{24} independently of one another are a group of formula

$\text{-X}_1\text{-X}_2\text{-X}_3$, wherein

X_1 is -O- , -S- , -NH- , -CONH- , -COO- , $\text{-SO}_2\text{-NH-}$, or $\text{-SO}_2\text{-O-}$,

X_2 is an alkylene, arylene, aralkylene or cycloalkylene spacer containing optionally one or more groups -O- , -S- , $\text{-NR}_{14}\text{-}$, -CO- , -CONH- , $\text{-CONR}_{15}\text{-}$, or -COO- as linking bridge,

X_3 is -OH , -NH_2 , $\text{-C(R}_{11}\text{)=CH}_2$, $\text{-OC(O)-C(R}_{12}\text{)=CH}_2$, $\text{-C(O)-C(R}_{12}\text{)=CH}_2$, or

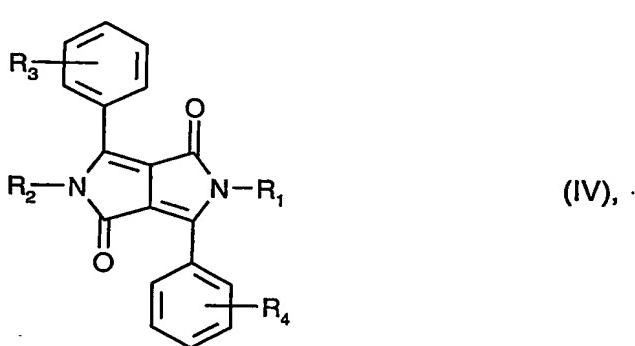
$\text{-OC(O)-N-X}_4\text{-N-C(O)-O-X}_5\text{-O-C(O)-C(R}_{12}\text{)=CH}_2$; wherein

R_{11} is hydrogen, or methyl,

R_{12} is hydrogen, or methyl,

R_{14} and R_{15} are independently of each other hydrogen, $C_1\text{-}C_8\text{alkyl}$, or $C_6\text{-}C_{12}\text{aryl}$, and X_4 and X_5 are as defined in claim 1.

4. A diketopyrrolopyrrole of the general formula



wherein R_1 and R_2 are independently of each other a group of the formula

$\text{-X}_2\text{-X}_3$ (II), wherein

X_2 is an alkylene, arylene, aralkylene or cycloalkylene spacer containing optionally one or more groups -O- , -S- , $\text{-NR}_{14}\text{-}$, -CO- , -CONH- , $\text{-CONR}_{15}\text{-}$, or -COO- as linking bridge,

X_3 is OH , NH_2 , $\text{-C(R}_{11}\text{)=CH}_2$, $\text{-OC(O)-C(R}_{12}\text{)=CH}_2$, $\text{-C(O)-C(R}_{12}\text{)=CH}_2$, or

$\text{-OC(O)-N-X}_4\text{-N-C(O)-O-X}_5\text{-O-C(O)-C(R}_{12}\text{)=CH}_2$; wherein

R_{11} is hydrogen, or methyl,

R_{12} is hydrogen, or methyl,

R_{14} and R_{15} are independently of each other hydrogen, C_1 - C_8 alkyl, or C_6 - C_{12} aryl, and X_4 and X_5 are as defined in claim 1,

R_3 and R_4 independently of one another are C_1 - C_{18} alkyl, C_1 - C_{18} alkoxy, $-NR_{16}R_{17}$, $-CONHR_{18}$, $COOR_{19}$, $-SO_2NH-R_{20}$, C_1 - C_{18} alkoxycarbonyl, C_1 - C_{18} alkylaminocarbonyl, wherein R_{16} , R_{17} , R_{18} , R_{19} and R_{20} are C_1 - C_{18} alkyl.

5. A diketopyrrolopyrrole according to claim 4, wherein R_1 and R_2 are independently of each other a radical of the formula

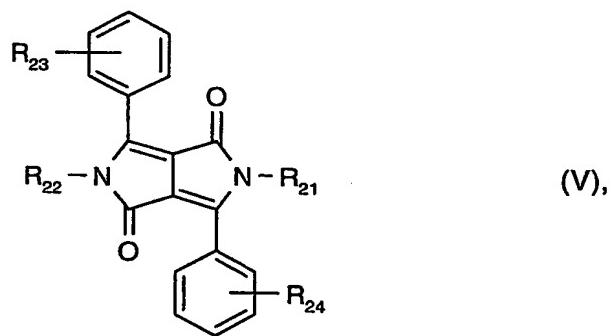
$-X_2-X_3$, wherein

X_2 is C_1 - C_{18} alkylene and

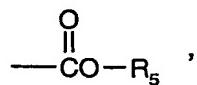
X_3 is $-NH_2$, $-OH$, $-CH=CH_2$, $-C(CH_3)=CH_2$, $-CO-CH=CH_2$, $-CO-C(CH_3)=CH_2$, $-CO-CH=CH_2$ or $-CO-C(CH_3)=CH_2$.

6. A diketopyrrolopyrrole according to claim 4 or 5, wherein R_3 and R_4 are independently of each other C_1 - C_{18} alkylmercapto, C_1 - C_{18} alkoxy, or $-NR_{16}R_{17}$, wherein one of the groups R_{16} and R_{17} is hydrogen and the other is C_1 - C_{18} alkyl or both groups R_{16} and R_{17} are independently of each other C_1 - C_{18} alkyl.

7. A diketopyrrolopyrrole of the general formula



in which R_{21} and R_{22} are independently of one another hydrogen, C_1 - C_{18} alkyl, C_1 - C_{18} alkyl which is interrupted one or more times by O or S, C_7 - C_{12} aralkyl or a group of the formula



in which R_5 is C_1 - C_{18} alkyl,

R_{23} and R_{24} independently of one another are a group of formula

-X₁-X₂-X₃, wherein

X₁ is -O-, -S-, -NH-, -CONH-, -COO-, -SO₂-NH-, or -SO₂-O-,.

X₂ is an alkylene, arylene, aralkylene or cycloalkylene spacer containing optionally one or more groups -O-, -S-, -NR₁₄-, -CO-, -CONH-, -CONR₁₅-, or -COO- as linking bridge,

X₃ is -OH, -NH₂, -C(R₁₁)=CH₂, -OC(O)-C(R₁₂)=CH₂, -C(O)-C(R₁₂)=CH₂, or

-OC(O)-N-X₄-N-C(O)-O-X₅-O-C(O)-C(R₁₂)=CH₂; wherein

R₁₁ is hydrogen, or methyl,

R₁₂ is hydrogen, or methyl,

R₁₄ and R₁₅ are independently of each other hydrogen, C₁-C₈alkyl, or C₆-C₁₂aryl, C₁-C₄alkyl, or C₆-C₁₂aryl, and

X₄ and X₅ are independently of each other an alkylene, arylene, aralkylene or cycloalkylene spacer.

8. A diketopyrrolopyrrole according to claim 7, wherein R₂₃ and R₂₄ independently of one another are a group of formula

-X₁-X₂-X₃, wherein

X₁ is -S-, -SO₂NH- or -NH-,

X₂ is a C₁-C₁₈alkylene group, and

X₃ is -OH, -NH₂, -CH=CH₂, -C(CH₃)=CH₂, -CO-CH=CH₂, -CO-C(CH₃)=CH₂, -CO-CH=CH₂, or -CO-C(CH₃)=CH₂.

9. A diketopyrrolopyrrole according to claim 7 or 8, wherein R₂₁ and R₂₂ independently of one another are hydrogen, or C₁-C₁₈alkyl.

10. A polymer, obtainable by polyreacting a mixture consisting of

(A) from 0.5 to 20, preferably from 1 to 10 % by weight, based on the sum of the components (A) and (B), of a diketopyrrolopyrrole IV or V, and

(B) from 99.5 to 80, preferably from 99 to 90 % by weight, based on the sum of the components (A) and (B), of a monomer which is copolymerisable with the diketopyrrolopyrroles IV and V,

the sums of (A) and (B) making up 100 % by weight.